

# United States Patent and Trademark Office



## NOTICE OF ALLOWANCE AND FEE(S) DUE

26291

7590

07/13/2004

MOSER, PATTERSON & SHERIDAN L.L.P. 595 SHREWSBURY AVE, STE 100 FIRST FLOOR SHREWSBURY, NJ 07702 EXAMINER HUYNH, SON P

ART UNIT

DATE MAILED: 07/13/2004

24

PAPER NUMBER

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/458,796	12/09/1999	DONALD F. GORDON	19880-000720	9295

TITLE OF INVENTION: APPARATUS AND METHOD FOR COMBINING REALTIME AND NON-REALTIME ENCODED CONTENT-

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$665	\$0	\$665	10/13/2004

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

#### HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

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appropriate All further cor	respondence including the selow or directed otherwise	Patent advance or	ders and noti	fication of maintenance fees was new correspondence address;	vill be mailed to the current	correspondence address as	
CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)			Fee(s) Transmittal. The papers. Each additions	Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must			
	90 07/13/2004			have its own certificate	of mailing or transmission.		
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595 SHREWSBUR	RY AVE, STE 100			I hereby certify that this Fee(s) Transmittal is being deposited with States Postal Service with sufficient postage for first class mail in a			
FIRST FLOOR			addressed to the Mail Stop ISSUE FE transmitted to the USPTO (703) 746-400			EE address above, or being facsimile	
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						(Signature)	
						(Date)	
APPLICATION NO.	FILING DATE	1	FIRST NAME	D INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
09/458,796	12/09/1999		DONALD F	. GORDON	19880-000720	9295	
TITLE OF INVENTION: A	PPARATUS AND METHO	D FOR COMBINI	NG REALTI	ME AND NON-REALTIME E	NCODED CONTENT-		
APPLN. TYPE	SMALL ENTITY	ISSUE FI	EE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE	
nonprovisional	YES	\$665		\$0	\$665	10/13/2004	
EXAM	INER	ART UN	IT	CLASS-SUBCLASS	]		
HUYNH	I, SON P	2611	· · · · · ·	725-091000			
1. Change of correspondence CFR 1.363).	e address or indication of "F	ee Address" (37	•	nting on the patent front page, li	1		
☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.			(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,				
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.			(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.				
3. ASSIGNEE NAME AND	RESIDENCE DATA TO E	E PRINTED ON T	HE PATEN	Γ (print or type)			
PLEASE NOTE: Unless recordation as set forth in	an assignee is identified be 37 CFR 3.11. Completion	elow, no assignee of this form is NO	data will app Fa substitute	ear on the patent. If an assign	nee is identified below, the d	locument has been filed for	
(A) NAME OF ASSIGN	EE	(В	) RESIDENC	CE: (CITY and STATE OR CO	UNTRY)		
Please check the appropriate	assignee category or category	ories (will not be pri	inted on the p	oatent); 🔾 individual 🔾 c	corporation or other private g	roup entity 🚨 government	
4a. The following fee(s) are	enclosed:	4b	. Payment of	Fee(s):			
☐ Issue Fee			☐ A check in the amount of the fee(s) is enclosed.				
☐ Publication Fee (No small entity discount permitted)		☐ Payment by credit card. Form PTO-2038 is attached.					
☐ Advance Order - # of	Copies	<del>.</del>	☐ The Direct Deposit Acc	ctor is hereby authorized by clount Number	narge the required fee(s), or enclose an extra c	credit any overpayment, to opy of this form).	
5. Change in Entity Status	(from status indicated above	;)					
a. Applicant claims SM	ALL ENTITY status. See 3	7 CFR 1.27.	D b. Applica	ant is not claiming SMALL EN	FITY status. See, e.g., 37 CF	R 1.27(g)(2).	
	ublication Fee (if required)	will not be accepted	from anyone	ny) or to re-apply any previousle other than the applicant; a reg			
(Authorized Signature)		(Date)					
This collection of information	n is required by 37 CFR 1.3	11. The informatio	n is required	to obtain or retain a benefit by	the public which is to file (an	d by the USPTO to process)	

an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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595 SHREWSBUF FIRST FLOOR	RY AVE, STE 100		ART UNIT	PAPER NUMBER	
SHREWSBURY, NJ 07702			2611		
			DATE MAILED: 07/13/2004	<b>1</b>	

Determination of Patent Term Extension under 35 U.S.C. 154 (b)

(application filed after June 7, 1995 but prior to May 29, 2000)

The Patent Term Extension is 0 day(s). Any patent to issue from the above-identified application will include an indication of the 0 day extension on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Extension is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (703) 305-1383. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

	Application No.	Applicant(s)
	09/458,796	GORDON ET AL.
Notice of Allowability	Examiner	Art Unit
	Son P Huynh	2611
The MAILING DATE of this communication apper All claims being allowable, PROSECUTION ON THE MERITS IS herewith (or previously mailed), a Notice of Allowance (PTOL-85) NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RI of the Office or upon petition by the applicant. See 37 CFR 1.313	ears on the cover sheet with the co (OR REMAINS) CLOSED in this applied or other appropriate communication GHTS. This application is subject to and MPEP 1308.	orrespondence address plication. If not included i will be mailed in due course. THIS
1. This communication is responsive to pape No. 23 filed on 5	AH -	7/26/04
2. The allowed claim(s) is/are <u>1-11, 13-18, 21-22 have been r</u>	enumbered as 1-19 respectively.	
3. The drawings filed on are accepted by the Examine	r.	
<ul> <li>4.  ☐ Acknowledgment is made of a claim for foreign priority una</li></ul>	been received.  been received in Application No cuments have been received in this  of this communication to file a reply IENT of this application.  itted. Note the attached EXAMINER as reason(s) why the oath or declarate be submitted.  con's Patent Drawing Review ( PTO  s Amendment / Comment or in the Comment or in the Comment of BIOLOGICAL MATERIAL residence in the BIOLOGICAL MATERIAL residence in the design of the submitted of the design of the submitted of the subm	complying with the requirements  'S AMENDMENT or NOTICE OF tion is deficient.  948) attached  Office action of the back) of d).  must be submitted. Note the
Attachment(s)  1. ☑ Notice of References Cited (PTO-892)  2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/0 Paper No./Mail Date  4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material	6. ☐ Interview Summary Paper No./Mail Dat Paper No	te

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### **DETAILED ACTION**

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EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with attorneys Steven M. Hertzberg (Reg. 41,834) and Eamon J. Wall (Reg. 39,414) on June 30, 2004 and July 2, 2004.

2. The application has been amended as follows:

In the claims:

1. (Currently amended) An apparatus for encoding realtime and non-realtime interactive program guide (IPG) content comprising <u>a realtime</u> video [content] <u>portion</u> and a <u>non-realtime</u> guide <u>graphics portion</u> [data], the apparatus comprising:

a non-realtime encoder configured to encode <u>the</u> non-realtime <u>guide graphics</u>

portion [content] into <u>a plurality of</u> encoded non-realtime <u>graphics</u> [content] slices;

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a realtime encoder configured to encode the realtime [content] **video portion** into encoded realtime [content] **video** slices;

means for assigning packet identifiers to the realtime video portion slices and the non-realtime guide graphics portion slices, wherein said assigning step assigns a different packet identifier to each guide graphics slice that is part of a different guide graphic, and assigns a common packet identifier to all common realtime video portion slices;

a remultiplexer configured to repacketize the encoded non-realtime [content] **guide graphics portion** slices and the encoded realtime **video portion** [content] slices into transport packets;

a slice combiner coupled to the realtime and non-realtime encoders and the remultiplexer, the slice combiner configured to combine slices of the encoded realtime video [content] **portion** with slices of the encoded non-realtime [video data content] **quide graphics portion** in a predetermined order; and

a re-timestamp unit coupled to the remultiplexer and configured to provide timestamps to be applied to the transport packets in order to synchronize the realtime <a href="Video portion"><u>video portion</u></a> and non-realtime [content] <a href="quide graphics portion"><u>quide graphics portion</u></a> of said IPG.

- 2. (Previously presented) The apparatus of claim 1, where the apparatus is located within a head-end of a cable distribution system.
- 3. (Currently Amended) The apparatus of claim 1, further comprising:



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a clock unit configured to provide a clock signal to the re-timestamp unit and to generate a clock stream to be transmitted along with [the] <u>a</u> transport stream to a plurality of terminals.

4. (Currently Amended) The apparatus of claim 1, further comprising:

a rate control unit configured to determine an encoding rate for the non-realtime [content] **<u>guide graphics portion</u>** and to provide the determined encoding rate for the non-realtime [content] **<u>guide graphics portion</u>** to the non-realtime encoder.

- 5. (Currently Amended) The apparatus of claim 4, where encoding rate for the non-realtime [content] **<u>guide graphics portion</u>** is determined based at least in part on an output rate of [the] **a** transport stream.
- 6. (Currently Amended) The apparatus of claim 4, where the rate control unit determines an encoding rate for the realtime [content] <u>video portion</u> based at least in part on an output rate of [the] <u>a</u> transport stream.
- 7. (Currently Amended) The apparatus of claim 1, wherein the realtime [content] <u>video</u> <u>portion</u> includes video and audio contents.
- 8. (Currently Amended) The apparatus of claim 1, wherein the non-realtime [content] **guide graphics portion** includes guide data.



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9. (Previously Amended) The apparatus of claim 7, wherein the realtime encoder includes

a video encoder configured to encode the realtime video content, and an audio encoder configured to encode the realtime audio content.

10. (Currently Amended) The apparatus of claim 5, wherein the encoding rate for the non-realtime [content] **guide graphics portion** is further determined based on a maximum bit rate anticipated for the encoded realtime video [content] **portion**.

11. (Previously presented) The apparatus of claim 1, wherein the timestamps provided by the re-timestamps unit replace timestamps generated by the realtime and non-realtime encoders.

12. Canceled.

13. (Previously presented) The apparatus of claim 1, wherein realtime and non-realtime contents intended to be displayed in a single frame are re-timestamped by the retimestamp unit for synchronization such that the contents are decoded and presented in the same frame.

Cont.

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14. (Currently Amended) [A method for encoding realtime and non-realtime content of an interactive program guide (IPG), comprising:

encoding realtime content to generate encoded realtime content slices;

encoding non-realtime content to generate encoded non-realtime content slices; combining slices of encoded realtime with slices of encoded non-realtime content, wherein the encoded realtime content and non-realtime content are combined in a predetermined order;

repacketizing the combined encoded realtime content slices and the encoded non-realtime content slices into transport packets, wherein the repacketizing is based on the combined slices of encoded realtime and non-realtime contents; and re-timestamping the transport packets with new timestamps in order to synchronize the realtime and non-realtime content of the IPG].

Apparatus for an interactive program guide (IPG) having a realtime video portion and a non-realtime guide graphics portion, comprising:

means for encoding the realtime video portion by dividing the video portion into slices and encoding each video portion slice;

means for encoding the non-realtime guide graphics portion to produce a

plurality of encoded non-realtime graphics slices by dividing the non-realtime

guide graphics portion into slices and encoding each guide graphic portion slice;

means for assigning packet identifiers to the realtime video portion slices

and the non-realtime guide graphics portion slices, wherein said assigning step

Cont.

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assigns a different packet identifier to each guide graphics slice that is part of a different guide graphic, and assigns a common packet identifier to all common realtime video portion slices;

means for combining encoded realtime video portion slices with encoded non-realtime guide graphics portion slices, wherein the encoded realtime video portion slices and non-realtime guide graphics portion slices are combined in a predetermined order;

means for repacketizing the combined encoded realtime video portion slices and the encoded non-realtime guide graphics portion slices into transport packets;

means for re-timestamping the transport packets with new timestamps in order to synchronize the realtime video portion and non-realtime guide graphics portion of the IPG; and

means for placing the encoded realtime video portion slices and nonrealtime guide graphics portion slices into a bitstream for transmission.

- 15. (Currently Amended) The method of claim [14] **22**, further comprising: generating the new timestamps based on a common clock signal.
- 16. (Currently Amended) The method of claim [14] <u>22</u>, further comprising:

  controlling a bit rate for the encoded non-realtime [content] <u>guide graphics</u>

  portion based in part on a bit rate for [the] <u>a</u> transport stream.



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17. (Currently Amended) The method of claim 16, wherein the bit rate for the encoded non-realtime [content] **guide graphics portion** is further based on a maximum bit rate anticipated for the encoded realtime [content] **video portion**.

18. (Currently Amended) The method of claim 16, further comprising:

allocating the bit rate for the encoded non-realtime [content] <u>guide graphics</u>

portion among a plurality of <u>guide graphics</u> pages of the non-realtime [content] <u>guide</u>

graphics portion.

19. Canceled.

20. Canceled.

- 21. (Currently presented) The apparatus of claim 1, wherein said non-realtime [content] **quide graphics portion** comprises guide page information and said realtime [content] **video portion** comprises video and audio information.
- 22. (Currently Amended) A method for an interactive program guide (IPG) having a realtime video portion and a non-realtime guide graphics portion, comprising:

encoding the realtime video portion by dividing the video portion into slices and encoding each video portion slice;



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encoding the non-realtime guide graphics portion to produce a plurality of encoded non-realtime graphics slices by dividing the <u>non-realtime</u> guide graphics portion into slices and encoding each <u>non-realtime</u> guide graphics portion slice;

assigning packet identifiers to the realtime video portion slices and the non-realtime guide graphics portion slices, wherein said assigning step assigns a different packet identifier to each guide graphics slice that is part of a different guide graphic, and assigns a common packet identifier to all [the] common realtime video portion slices;

combining encoded realtime video portion slices with encoded non-realtime guide graphics portion slices, wherein the encoded realtime video portion slices and non-realtime guide graphics portion slices are combined in a predetermined order;

repacketizing the combined encoded realtime video portion slices and the encoded non-realtime guide graphics portion slices into transport packets;

re-timestamping the transport packets with new timestamps in order to synchronize the realtime video portion and non-realtime guide graphics portion of the IPG; and

placing the encoded realtime video portion slices and non-realtime guide graphics portion slices into a bitstream for transmission.

#### Allowable Subject Matter

3. Claims 1-11, 13-18, 21-22 are allowed.



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### **Drawings**

- 4. The application having been allowed, new corrected drawings are required in this application because the margins, lines in the drawings are improper. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.
- 5. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, the prior art of record fails to show or fairly suggest an apparatus for encoding realtime and non-realtime interactive program guide content as set forth in the claim where the means for assigning packet identifiers to the realtime video portion slices and the non-realtime guide graphics portion slices, wherein said assigning step assigns a different packet identifier to each guide graphics slice that is part of a different guide graphic, and assigns a common packet identifier to all common realtime video portion slices. The closest prior art, US Patent 5,619,337 to Naimpally shows (figure 3) substantially the same arrangement but lacks the specific elements of lines 8-12, 16-22 of claim 1.

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Statement of Reasons for Allowance."

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on

#### **Conclusion**

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shen et al. (US 5,956,088) teaches method and apparatus for modifying encoded digital video for improved channel utilization.

Yurt et al. (US 5,550,863) teaches audio and video transmission and receiving system.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son P Huynh whose telephone number is 703-305-1889. The examiner can normally be reached on 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Faile can be reached on 703-305-4380. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Son P. Huynh July 2, 2004

VIVEK SRIVASTAVA PRIMARY EXAMINER